DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

Bay Area Branch
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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 13.28

WELDING INSPECTION REPORT

Resident Engineer: Pursell, Gary
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-009602
Date Inspected: 14-Oct-2009

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: Oregon Iron Works Clackamas, Or.

OSM Arrival Time: 700
OSM Departure Time: 1530
Location: Clackamas, OR

CWI Name:	Mike Gregson, Jose Salazar			**CWI Present:**	☑ Yes	☐ No	
Inspected CWI report:	☐ Yes	☑ No	☐ N/A	**Rod Oven in Use:**	☐ Yes	☐ No	☑ N/A
Electrode to specification:	☑ Yes	☐ No	☐ N/A	**Weld Procedures Followed:**	☑ Yes	☐ No	☐ N/A
Qualified Welders:	☑ Yes	☐ No	☐ N/A	**Verified Joint Fit-up:**	☑ Yes	☐ No	☐ N/A
Approved Drawings:	☑ Yes	☐ No	☐ N/A	**Approved WPS:**	☑ Yes	☐ No	☐ N/A
				Delayed / Cancelled:	☐ Yes	☑ No	☐ N/A

Bridge No: 34-0006
Component: Hinge K Pipe Beams

Summary of Items Observed:

The Quality Assurance Inspector Sean Vance arrived on site at Oregon Iron Works, Inc (OIW) in Clackamas, OR, to randomly observe the in process welding of the Hinge K Pipe Beam assemblies. The QA Inspector arrived on site to randomly observe the OIW Quality Control (QC) Inspectors in process and completed visual and nondestructive testing. Upon the arrival of the QA Inspector the following observations were made:

OIW Fabrication Shop-Bay 3
Hinge-K Pipe Beam Assembly 102A-3: 10/14/09
a111-3 Forging to a110-3 Base Plate
QA Inspector noticed this assembly 102A-3 had been previously placed in position and welder #O6, Mr. Tim O'Brian, was in process of performing submerged arc welding, on the e107 stiffener plate to a111-3 tubular forging, designated as weld joint # W1-151, in the flat position. QA Inspector noted that this weld joint was designated as a partial joint penetration (AWS D1.5 TC-P5-S) and QA Inspector verified Mr. O'Brian was currently qualified for this process/position. QA Inspector noted that Mr. O'Brian was utilizing OIW approved welding procedure specification (WPS 4016) and randomly recorded pre-heat temperatures of approximately 350 degrees Fahrenheit (177 C). QA Inspector noticed QC Inspector Jose Salazar was present to monitor in-process welding parameters (amps/volts) and noted that Mr. Salazar had previously recorded in-process welding parameters of 560 amps and 35 volts, on the in-process cover passes. QA Inspector verified in-process welding parameters of 565 amps and 35 volts, which appears to be in compliance with the applicable welding procedure specification and contract requirements.
QA Inspector noticed that welder #J6, Mr. Craig Jacobson, was in process of performing submerged arc welding, on the d108 stiffener plate to a111-3 tubular forging, designated as weld joint # W1-128, in the flat position. QA

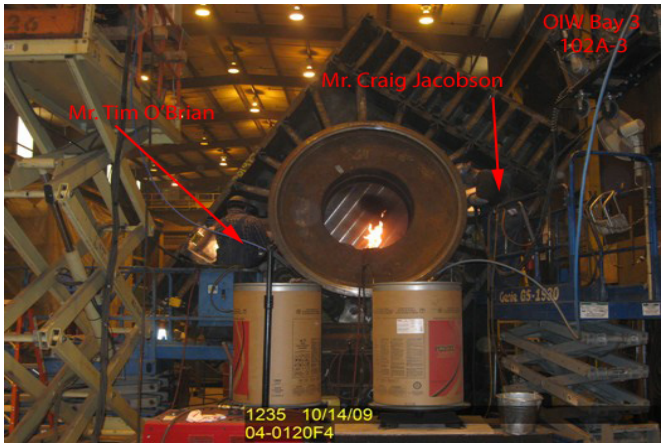
Inspector noted that this weld joint was designated as a partial joint penetration (AWS D1.5 TC-P5-S) weld and QA Inspector verified Mr. Jacobson was currently qualified for this process/position. QA Inspector noted that Mr. Jacobson was utilizing OIW approved welding procedure specification (WPS 4016) and randomly recorded pre-heat temperatures of approximately 350 degrees Fahrenheit (177 C). QA Inspector noticed QC Inspector Jose Salazar was present to monitor in-process welding parameters (amps/volts) and noted that Mr. Salazar had previously recorded in-process welding parameters of 410 amps and 30 volts, on the in-process root pass. QA Inspector verified in-process welding parameters of 430 amps and 30 volts, which appears to be in compliance with the applicable welding procedure specification and contract requirements. See attached picture below.
Note: QA Inspector later spoke with QC Inspector Jose Salazar and Mr. Salazar explained that the following weld joints, on the radial stiffeners, were completed by Mr. O'Brian and Mr. Jacobson, by end of shift: WJ #W1-151, W1-149, W1-147, W1-128 and W1-126. Mr. Salazar also explained that 100% magnetic particle testing was performed on the above mentioned welding root passes and no rejectable indications were found, per AWS D1.5 and contract requirements.

Hinge-K Pipe Beam Assembly 102A-4: 10/14/09
a111-4 Forging to a110-4 Base Plate
QA Inspector was notified by QC Inspector Jose Salazar that this assembly 102A-4 had been previously placed in position and welder #T23, Mr. John Tellone, was currently in-process of performing submerged arc welding. QA Inspector later verified that Mr. Tellone was performing the submerged arc welding on the a109 Post Tension Cap Plate to ab106 stiffener, designated as weld joint #W2-18, in the flat (1G) position. QA Inspector noted that this weld joint was designated as a partial joint penetration (AWS D1.5 TC-P4-S), with a bevel prep angle of 60 degrees and zero degree root opening. QA Inspector noted that Mr. Tellone was utilizing OIW approved welding procedure specification (WPS 4020) and appeared to be in compliance with this procedure. QA Inspector noted that QC Inspector Jose Salazar, was present and intermittently verified the in-process welding parameters and pre-heat temperatures, to insure compliance with the applicable welding procedure specifications and AWS D1.5. QA Inspector randomly performed an in-process verification of welding parameters and recorded amps/volts of 420/30 and a pre-heat temperature of approximately 350 degrees Fahrenheit (177 C). See attached picture below.

Material, Equipment, and Labor Tracking
QA Inspector Sean Vance performed a verification of material, personnel and equipment involved with the project. The QA Inspector observed at Oregon Iron Works: 5 OIW production personnel and 2 QC Inspectors.

WELDING INSPECTION REPORT

(Continued Page 3 of 3)



Summary of Conversations:

As noted above.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mohammad Fatemi (916) 813-3677, who represents the Office of Structural Materials for your project.

Inspected By:	Vance,Sean	Quality Assurance Inspector
Reviewed By:	Adame,Joe	QA Reviewer